



Australian Government

TLIE3026 Carry out advanced calculations in the transport and logistics industry

Release: 1

TLIE3026 Carry out advanced calculations in the transport and logistics industry

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to carry out advanced calculations in the transport and logistics industry.

It includes identifying required calculations, applying advanced calculation in workplace tasks, preparing estimates, and interpreting graphical representations of mathematical information.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

E – Communication and Calculation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify required calculations

2 Apply advanced

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Nature of calculation required and items involved are determined

1.2 Tools required to perform calculations are identified and sourced

2.1 Calculations involving fractions, percentages and mixed

calculations in workplace tasks		numbers, using the four basic processes, are performed as required to complete workplace tasks
	2.2	Numerical information is checked and corrected for accuracy
3 Prepare estimates	3.1	Quantities of materials and resources required to complete work task are estimated and calculated accurately, using fractions, percentages and mixed numbers
	3.2	Accurate estimates for work completion are made using fractions, percentages and mixed numbers
	3.3	Working load limits (WLL) and safe working limits (SWL) of workplace equipment are calculated using advanced calculations
4 Interpret graphical representations of mathematical information	4.1	Information represented in symbols, diagrams and pictorial representations is recognised
	4.2	Recognised information represented in symbols, diagrams and pictorial representations is interpreted and acted upon

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIE3026A Carry out advanced calculations in the transport logistics industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIE3026 Carry out advanced calculations in the transport and logistics industry

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- calculating load limit
- calculating mass and dimension of work function for job role using fractions, percentages and mixed numbers
- completing documentation relating to work activities
- estimating working load limits
- interpreting and analysing a workplace mathematical symbol
- interpreting and following operational instructions and prioritising work
- making accurate estimates in a range of situations
- modifying activities depending on operational contingencies and environments
- operating and adapting to differences in equipment in accordance with operating procedures
- reading complex dials and indicators, non-standard units of measurement, metric and imperial unit conversion, more advanced time estimates
- reading complex legislative and regulatory requirements
- using multiple pieces of mathematical information to perform complex mathematical processes
- using ratios and proportion, and applying rates
- working collaboratively with others
- working systematically with required attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- accurate estimates including:
 - damage

- gradient
- included angles
- mechanical advantage
- potential snapping path
- resistance
- rolling
- advanced mathematical operations and techniques
- advanced mathematical problems, and appropriate action and solutions
- brackets, order, divide, multiply, add, subtract (BODMAS)
- complex numeracy around job functions in transport and logistics
- four basic calculations processes:
 - addition
 - division
 - multiplication
 - subtraction
- methods of representing advanced and complex mathematical information from data collected
- procedures for identifying and using relevant workplace technology when carrying out workplace calculations
- relevant work health and safety (WHS)/occupational health and safety (OHS) responsibilities
- symbols, diagrams and pictorial representations including:
 - graphic representation within transport and logistics operations
 - pie charts
 - spreadsheets
- working load limits (WLL) and safe working limits (SWL) including:
 - air cushion (shock absorber that uses an air chamber)
 - force (leverage)
 - horizontal winch pull
 - mass
 - vertical winch pull
 - winch pull (leverage) required for recovery.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

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